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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,559	04/30/2001	Tadao Kyomoto	70840/55872	2214

21874 7590 03/29/2004  
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EXAMINER

BELL, PAUL A

ART UNIT PAPER NUMBER

2675

DATE MAILED: 03/29/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/845,559

**Applicant(s)**

KYOMOTO, TADAO

**Examiner**

PAUL A BELL

**Art Unit**

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,8-10 and 12-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,8-10 and 12-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1,3-6, 8, 9, 10 and 12-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 1 the phases, "turned entirely-ON" and "partially-ON" are considered vague and indefinite because what is the difference between being "ON" and "entirely-ON" or "partially-ON" in simplistic terms a light is "ON" or "OFF" and therefore more language is needed in claims to make clear what are the possibilities for these terms.

With regard to claims 5 and 10 they have the same problem as 1.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, 4, 8, 9, 10, 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al. (5,461,397) in view of Evanicky et al. (6,657,607).

With regard to claim 1 Zhang et al. teaches an illumination control device (figure 1a, item 32 and 101) for illuminating an light modulation information display device

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(figure 1a, item 34 LCD) with light, comprising: at least one illumination device for irradiating light which is generated through discharging (abstract "flat gas discharge back end unit containing multiple gas discharge tunnels"); and a driving waveform generation section for controlling the light which is irradiated from the at least one illumination device to the light modulation information display device (figure 1a, item 101 and figure 2), wherein: the light modulation information display device is operable so as to have a first period and a second period during which an image is displayed; during the first period, the driving waveform generation section applies a first voltage to the at least one illumination device, the first voltage causing the at least one illumination device to be turned entirely-ON and during the second period, the driving waveform generation section applies a second voltage to at least a portion of the at least one illumination device, ( See figure 2, SUB-SECTION I illustrates a "second voltage" or "ignition voltage" during a "second period" which is the "pulse" part of the signal used to turn-on the Red, Green or Blue light, See figure 3A which illustrates a cathode item 322 and an anode item 321 of which the second voltage is applied. Now with regard to the "first voltage" and "first period" See Column 5, lines 2-10 "another aspect of the present inventive SFBL structure is the provision of **means for priming** the channels or tunnels to be discharged with charged particles. This priming is to be performed before or immediately **before the ignition voltage is applied**", in this section "priming" reads on "first voltage" and "immediately before the ignition voltage" reads on first period ) wherein the second voltage is different from the first voltage (Since the amount of first voltage (or priming) determines how much second voltage (or ignition voltage) is

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needed, the second voltage is different than the first voltage, also See column 5, lines 6-10).

Zhang et al. does not teach "the second voltage is a partially-ON voltage for causing at least a portion of the at least one illumination device to be illuminated" Zhang et al. instead teaches selected lights being entirely-On or entirely-Off".

Evanicky et al. teaches the concept of a liquid crystal flat panel display with enhanced backlight brightness is controlled by altering the driving voltages of the light sources which causes a dimming of the brightness (column 6, lines 10-45 and column 13, lines 20-40) the "dimming" feature reads on the above broad language.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the back light controller of Zhang et al. with the ability to change the driving voltage to dim the lights so as at least a portion of the light source is lit as taught by Evanicky et al. because of the motivational reasons given by Evanicky et al. in column 3, lines 1-10).

With regard to claim 3 the combination Zhang et al. and Evanicky et al. teaches an illumination control device according to claim 1, wherein the second voltage causes the at least one illumination device to have a minimal discharging (Zhang et al. column 5, lines 1-30).

With regard to claim 4 the combination of Zhang et al. and Evanicky et al. teaches an illumination control device according to claim 1, wherein the second voltage causes the at least one illumination device to retain a partial discharging ( Zhang et al. column 5, lines 1-30).

With regard to claim 8 the combination of Zhang et al. and Evanicky et al. teaches an illumination control device according to claim 1, further comprising a light modulation information display section, wherein the light modulation information display section controls light provided from the illumination control device to display information ( Zhang et al. abstract).

With regard to claim 9 the combination of Zhang et al. and Evanicky et al. teaches an illumination control device according to claim 8, wherein the controlling of the light comprises at least one of transmission, absorption, interception, reflection of the light (Zhang et al. figure 1a, LCD).

With regard to claim 10 the combination of Zhang et al. and Evanicky et al. teaches a light modulation information display device (Zhang et al. figure 1a, LCD) comprising: a light modulation information display section (Zhang et al. figure 1a, LCD); and an illumination control device (Zhang et al. figure 1a, item 32) comprising at least one illumination device having two main discharging electrodes ( Zhang et al. figure 3a, item 322 "cathode" and item 321 "anode" and since these are where the ignition voltage is applied it reads on "main discharging electrodes") and a partial discharging electrode (Zhang et al. figure 3a, item 325, "pilot discharge electrode", and since this electrode is used in "the priming means" it reads on "a partial discharging electrode" ), wherein light provided from the at least one illumination device is irradiated to the light modulation information display section (Zhang et al. figure 1a, "BLACKLIGHT and LCD), wherein: the at least one illumination device has a length greater than a corresponding dimension of the light modulation information display section (Zhang et al. figures 1a, 1b this is an

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inherent feature because the backlight has end connection sections that do not emit light so therefore in order to work and provide light to every pixel it must be bigger than LCD ; the at least one illumination device includes a first region corresponding to the light modulation information display section (Zhang et al. figure 7, items 565 and 555) and a second region not corresponding to the light modulation information display section; and one of the two main discharging electrodes is disposed in the first region (Zhang et al. figure 3a, items 321), and the other of the two main discharging electrodes and the partial discharging electrode are disposed in the second region (Zhang et al. figure 3a, items 325, 322), wherein the at least one illumination device undergoes a partially-on state between the other of the two main discharge electrodes disposed in the second region and the partial discharging electrode (SEE Evanicky et al. column 6, lines 10-45 and column 13, lines 20-40).

With regard to claim 12 the combination of Zhang et al. and Evanicky et al. teaches a light modulation information display device according to claim 10, wherein the at least one illumination device retains a minimal discharging between the other of the two main discharging electrodes disposed in the second region and the partial discharging electrode (SEE Zhang et al. column 5, lines 1-30, column 9, lines 1-35, figures 4a and 4b).

With regard to claim 13 the combination of Zhang et al. and Evanicky et al. teaches a light modulation information display device according to claim 10, wherein the at least one illumination device retains a partial discharging between the other of the two main discharging electrodes disposed in the second region and the partial

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discharging electrode (SEE Zhang et al. column 5, lines 1-30, column 9, lines 1-35, figures 4a and 4b).

With regard to claim 14 the combination of Zhang et al. and Evanicky et al. teaches the display section is split into a plurality of split display regions each containing a number of horizontal scanning lines (Zhang et al. column 4, lines 34-39 figure 1B), wherein each illumination device is assigned split activation regions (figure 1B) and the method of applying the voltages was shown above.

With regard to claim 15 combination of Zhang et al. and Evanicky et al. was shown to read on most of the limitations of claim 15 above in addition the combination teaches the light modulation information device further includes a light modulation material (Zhang et al. LCD figure 1A) and it is obvious that images are scanned over with a delay corresponding to a response time of the light modulation material (because with out this proper timing of events it would not work properly) .

With regard to claims 16-18 all the limitations were addressed above by the combination of Zhang et al. and Evanicky et al.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Zhang et al. (5,461,397)



With regard to claim 5 Zhang et al. teaches an illumination control device (figure 1a, item 32 and 101) for illuminating an light modulation information display device (figure 1a, item 34 LCD) with light, comprising: at least one illumination device for irradiating light which is generated through discharging (abstract "flat gas discharge back end unit containing multiple gas discharge tunnels"); and a driving waveform generation section for controlling the light which is irradiated from the at least one illumination device to the light modulation information display device (figure 1a, item 101 and figure 2), wherein: the light modulation information display device is operable so as to have a first period and a second period during which an image is displayed; during the first period, the driving waveform generation section applies a first voltage to the at least one illumination device, the first voltage causing the at least one illumination device to be turned entirely-ON during the second period, the driving waveform generation section applies a second voltage to at least a portion of the at least one illumination device, ( See figure 2, SUB-SECTION I illustrates a "second voltage" or "ignition voltage" during a "second period" which is the "pulse" part of the signal used to turn-on the Red, Green or Blue light, See figure 3A which illustrates a cathode item 322 and an anode item 321 of which the second voltage is applied. Now with regard to the "first voltage" and "first period" See Column 5, lines 2-10 "another aspect of the present inventive SFBL structure is the provision of **means for priming** the channels or tunnels to be discharged with charged particles. This priming is to be performed before or immediately **before the ignition voltage is applied**", in this section "priming" reads on "first voltage" and "immediately before the ignition voltage" reads on first period )

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wherein the second voltage is different from the first voltage (Since the amount of first voltage (or priming) determines how much second voltage (or ignition voltage) is needed, the second voltage is different than the first voltage, also See column 5, lines 6-10); wherein: each of the at least one illumination device comprises two main discharging electrodes and a partial discharging electrode provided in a vicinity of one of the two main discharging electrodes; the driving waveform generation section applies the first voltage between the two main discharging electrodes during the first period; and the driving waveform generation section applies the second voltage between the partial discharging electrode and the one main discharging electrode in the vicinity of the partial discharging electrode during the second period (figures 3a and 4a column 9, lines 1-35, column 10, lines 30-50); an outer wall of the illumination device comprises at least one of a light shielding surface or an ultraviolet ray-shielding surface in a vicinity of a portion between the one main discharging electrode and the partial discharging electrode (figure 8c, item 427 "reflective coating" column 13, lines 1-10 reads on "shielding" or figure 8b items 435 and 415 illustrates the end connector for feeding the electrical leads and sealing the end of the glass tube) .

With regard to claim 6 Zhang et al. teaches an illumination control device according to claim 5, wherein: the at least one illumination device comprises a plurality of illumination devices; and for each of the plurality of illumination devices, the driving waveform generation section individually selects a voltage to be applied and electrodes between which a discharge is to occur, depending on the first period and the second period of the illumination device (figures 1a and 2).

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***Response to Arguments***

7. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

**Conclusion**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Bell whose telephone number is (703) 306-3019.

If attempts to reach the examiner by telephone are unsuccessful the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377 can help with any inquiry of a general nature or relating to the status of this application.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Or Faxed to: (703) 872-9306

Or Hand-delivered to: Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor  
(Receptionist).

*Paul Bell*

Paul Bell

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March 25, 2004

*Chanh Nguyen*  
CHANH NGUYEN  
PRIMARY EXAMINER